REMARKS

Claims 1 and 7 have been amended. Proper support for the amendment to claims 1 and 7 is found in the specification, at least, at paragraphs [0035] and [0036] and illustrated in Fig. 6. Claims 1, 3-7 and 9-12 are pending and under consideration. No new matter is presented in this Amendment.

OBJECTION TO THE DRAWINGS:

The drawings stand object to as failing to show every feature of the invention specified in the claims. In particular, it is stated that the figures fail to show the width of the activation layer including the LDD region or offset region being shorter than a distance between the primary crystal grain boundaries.

Applicants note that independent claims 1 and 7 have been amended to correct a minor informality with respect to the width of the LDD region with respect to the primary crystal grain boundaries and the relationship between the activation layer and the LDD region or offset region. Therefore, claims 1 and 7 have been amended and now recite that the LDD region or offset region, which is part of the activation layer, is shorter than the distance between the primary crystal grain boundaries. Proper support for such amendments to the claims is found in the specification, at least, at paragraphs [0035] and [0036] and in Fig. 6.

Accordingly, Applicants assert that the drawings show every feature of the invention specified in the claims, and therefore respectfully request that the objection to the drawings be withdrawn.

REJECTIONS UNDER 35 U.S.C. §112:

Claims 1, 3-5, 7 and 9-11 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

In particular the Office Action states that the limitation of "wherein a width of an activation layer including the LDD region or offset region is shorter than a distance between primary crystal grain boundaries," recited in independent claims 1 and 7, fails to comply with the written description requirement.

With respect to claim 1, Applicants note that claim 1 has been amended to correct a minor informality regarding the relationship between the activation layer and the LDD/offset

region and the LDD region and the primary crystal grain boundaries. Accordingly, claim 1 as amended recites, amongst other novel features, that a width of the LDD region or offset region, included in an activation layer, is shorter than a distance between the primary crystal grain boundaries. Proper support for such amendment can be found in the specification, at least, at paragraphs [0035] and [0036] and in Fig. 6.

Regarding the rejection of claim 7, is it noted that claim 7 has been amended similarly to claim 1 and thus corrects the informality noted in the Office Action.

Accordingly, Applicants respectfully submit that claims 1 and 7, as amended, fully comply with the written description requirements of 35 U.S.C. § 112, first paragraph and respectfully request that the rejection of claims 1 and 7 be withdrawn.

Furthermore, Applicants respectfully assert that the rejection of claims 3-5 and 9-11 should also be withdrawn, at least, because of their dependency from claims 1 and 7.

Claims 1, 3-5, 7 and 9-11 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Office Action states that the limitation of "wherein a width of an activation layer including the LDD region or offset region is shorter than a distance between primary crystal grain boundaries," recited in independent claims 1 and 7, renders the claims indefinite.

Regarding the rejection of independent claim 1, it is noted that claim 1, has been amended to correct the minor informality regarding the width of the LDD region with respect to the primary crystal grain boundaries as well as the relationship between the activation layer and the LDD/offset region. Accordingly claim 1 now recites, amongst other novel features, that a width of the LDD region or offset region, included in an activation layer, is shorter than a distance between the primary crystal grain boundaries. Proper support for such amendment can be found in the specification, at least, at paragraphs [0035] and [0036] and in Fig. 6.

Regarding the rejection of independent claim 7, it is noted that this claim recites some substantially similar features as claim 1. Thus, the rejection of this claim is also traversed for substantially the same reasons set forth above.

Accordingly, Applicants respectfully submit that claims 1 and 7, as amended, fully comply with the requirements of 35 U.S.C. § 112, second paragraph and respectfully request that the rejection of claims 1 and 7 be withdrawn.

Regarding the rejection of claims 3-5 and 9-11, it is noted that these claims depend from claims 1 and 7, and as noted above, claims 1 and 7 fully comply with the requirements of 35 U.S.C. §112, second paragraph. Accordingly, Applicants respectfully request that the rejection of claims 3-5 and 9-11 be withdrawn, at least, because of their dependency from claims 1 and 7.

REJECTIONS UNDER 35 U.S.C. §102:

Claims 1, 3-5, 7 and 9-11 are rejected under 35 U.S.C. §102(b) as being anticipated by Oka et al. (U.S. Patent No. 6,184,541).

Regarding the rejection of independent claim 1, it is noted that claim 1 recites a thin film transistor (TFT) comprising a lightly doped drain (LDD) region or offset region and a plurality of primary crystal grain boundaries, wherein the thin film transistor is formed so that the primary crystal grain boundaries of a polysilicon substrate are positioned in channel, source and drain regions but not positioned in the LDD or offset region, and wherein a width of the LDD region or offset region, included in an activation layer, is shorter than a distance between the primary crystal grain boundaries.

The Office Action relies on Oka for the teaching of claim 1 and in particular states that Oka discloses a TFT comprising a LDD region and a plurality of primary crystal grain boundaries 2, wherein the TFT is formed so that the primary crystal grain boundaries of a polysilicon substrate 3 are positioned in channel 8, source 6, and drain 7 regions, but not positioned in the LDD region.

The Office Action further states that a portion of region 4 denoted by the width "d" can be considered the LDD region, since the other portion of region 4 was doped with additional impurities during heat treatment. In particular, the Office Action relies on column 3, lines 60-66 for such teachings. Applicants respectfully traverse such assertion for at least the following reasons.

As noted in column 3, lines 60-66, Oka discloses that the impurity 14 diffuses from the high concentration region 5 into the low concentration region 4 along the grain boundary when the heat treatment that activates the impurity is provided. In other words, Oka simply discloses impurities diffusing from the high concentration region 5 to the low concentration region 4 along the grain boundary located in the low concentration region 4. Therefore, there is no teaching or suggestion in Oka that the other portion of the low concentration region 4 is additionally doped with impurities, as suggested in the Office Action. At most, Oka teaches impurities along the grain boundaries located in the LDD region.

Accordingly, Applicants respectfully assert that the rejection of claim 1 under 35 U.S.C. § 102(b) should be withdrawn because Oka fails to teach or suggest each feature of independent claim 1.

Regarding the rejection of independent claim 7, it is noted that this claim recites some substantially similar features as claim 1. Thus, the rejection of this claim is also traversed for substantially the same reasons set forth above.

Furthermore, Applicants respectfully assert that dependent claims 3-5 and 9-11 are allowable at least because of their dependency from claims 1 and 7, and because they include additional features which are not taught or suggested by the prior art. Therefore, it is respectfully submitted that claims 3-5 and 9-11 also distinguish over the prior art.

ALLOWABLE SUBJECT MATTER:

Claims 6 and 12 are allowed.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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